CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 95-084

AMENDMENT OF SITE CLEANUP REQUIREMENTS (ORDER NO. 89-016) FOR:

FAIRCHILD SEMICONDUCTOR CORP. AND SCHLUMBERGER TECHNOLOGY CORP.

for the property located at

101 BERNAL ROAD
SAN JOSE
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region (hereinafter the Board), finds that:

1. **Regional Board Orders**: The Board adopted final site cleanup requirements for this site on January 18, 1989 (Order No. 89-016) and amended those requirements on May 16, 1990 (Order No. 90-064). The Board issued an NPDES permit allowing discharge of extracted, treated groundwater on January 18, 1989 (Order No. 89-015) and renewed this permit on September 21, 1994 (Order No. 94-120).

2. **New Property Owner**: In 1990, Fairchild Semiconductor Corp. and Schlumberger Technology Corp. ("Fairchild") sold the property to SRDC, Inc., a firm based in Mountain View. Fairchild retained responsibility for remediation activities. SRDC, Inc., is not named as a discharger in this order, but the Board reserves the right to name SRDC, Inc., as a discharger in the future, based on its status as current property owner.

3. **Five Year Status Report and Effectiveness Evaluation**: On December 13, 1993, Fairchild submitted a five-year status report and effectiveness evaluation, in compliance with Provision C.2.h.1) of Order No. 89-016. The report found that the cleanup plan was effective, but that cleanup standards had not yet been met. It is appropriate to require such reports every five years in order to assess the cleanup plan's effectiveness.

4. **Reduced Reporting Requirements:** Fairchild has been conducting remedial activities at the site for over 12 years, and has been implementing the Board-approved cleanup plan for over 6 years. Groundwater conditions, especially off-site conditions, have stabilized and do not show significant variations over time.

   Order No. 89-016 requires monthly "status letter reports" and quarterly progress reports, in addition to quarterly self-monitoring reports. This order requires quarterly or semi-annual monitoring of most wells. This order also requires Fairchild to compute moving annual averages of VOC concentrations and to immediately report significant increases in any moving average (over 50% relative percent different or RPD). It is appropriate to reduce these reporting requirements, based on the above factors.

5. **Curtailment of Soil Remediation:** Remediation of saturated soils at the Fairchild site may be curtailed and the associated facilities may be removed, based on the following.

   a. Fairchild operated an in-situ soil aeration system from January 1989 through April 1990. The system extracted VOCs from a temporarily-dewatered A-B aquitard and B aquifer inside the slurry wall surrounding the site. The system removed about 16,000 pounds of VOCs during this period, more than three-quarters of this mass during the first six months.

   b. Fairchild suspended soil remediation after curtailment criteria contained in its April-June 1989 quarterly monitoring report (Appendix J) were consistently met. These include a criterion of less than 10 pounds per day of VOCs removed for the whole system. In April 1990, the system removed an average of only 6 pounds per day of VOCs. The system reached an asymptotic level prior to suspension of operation.

   c. Fairchild allowed the on-site B aquifer and A-B aquitard to re-saturate during the remainder of 1990 and in 1991. VOC concentrations in the on-site B aquifer were substantially reduced as a result of the soil remediation, but remain above on-site groundwater cleanup levels. On-site groundwater is being remediated by the existing extraction and treatment system.

   d. A comparison of soil sampling before and after the soil remediation shows substantial reductions in VOC concentrations. Reductions average more than 90% for TCA, DCE, and other VOCs. Most post-remediation samples are below 1 ppm total VOCs, and almost all samples are below 10 ppm total VOCs.

   e. In a March 28, 1995, letter from its consultant, Fairchild requested curtailment of the soil remediation system including removal of all remaining soil aeration

wells and associated facilities. The request is prompted by pending site redevelopment and Fairchild's desire to avoid making unnecessary improvements to remediation facilities prior to redevelopment. Fairchild notes that resumption of on-site soil remediation would require aquifer dewatering, which is infeasible due to increased groundwater elevations outside the slurry wall and regulatory limits on on-site groundwater extraction and discharge.

f. Remaining VOC concentrations in saturated soils do not represent a threat to public health, in that these soils are more than 40 feet below ground surface and are saturated, and the remaining VOCs are by definition not easily volatilized.

6. **CEQA**: This action is an order to enforce the laws and regulations administered by the Board. As such, this action is categorically exempt from the provisions of the California Environmental Quality Act (CEQA) pursuant to Section 15321 of the Resources Agency Guidelines.

7. **Notification**: The Board has notified the discharger and all interested agencies and persons of its intent under California Water Code Section 13304 to amend final site cleanup requirements for the discharge, and has provided them with an opportunity to submit their written comments.

8. **Public Hearing**: The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

**IT IS HEREBY ORDERED**, pursuant to Section 13304 of the California Water Code and Section 25356.1 of the California Health and Safety Code, that the dischargers shall comply with the following:

A. Order No. 89-016 shall be amended as follows:

1. Specification B.5 shall be revised to read:

Final chemical concentrations shall not be found to exceed the appropriate cleanup level based on the annual average of analytical results.

If the annual average for TCA or DCE in any off-site well increases by 50% or more relative percent different (RPD) from the previous year, then the dischargers shall inform the Regional Board by phone or by fax within one week after receiving written laboratory results indicating such an increase. The dischargers shall include in the next quarterly self-monitoring report all

RPD calculations and, for any wells with an RPD over 50%, an evaluation of the occurrence and proposal for corrective action, if necessary.

2. Specification B.6 shall be revised to read:

   The dischargers shall cleanup saturated soils in the on-site A-B aquitard and B aquifer until asymptotic levels of contaminant removal are attained. Asymptotic levels are defined in Appendix J of Fairchild's quarterly status report for April-June 1989 and include a curtailment criterion of less than 10 pounds per day mass removal.

3. Provision C.2.h.2) shall be added:

   COMPLETION DATE: January 18, 1999

   TASK 19.1: TEN YEAR STATUS REPORT AND EFFECTIVENESS EVALUATION. Submit a technical report acceptable to the Executive Officer evaluating the effectiveness of the approved cleanup plan. The report should include:

   a. Summary of effectiveness in controlling contaminant migration and protecting human health and the environment.

   b. Comparison of contaminant concentration trends with cleanup standards.

   c. Summary of actual costs of cleanup activities.

   d. Performance data (e.g. groundwater volume extracted, chemical mass removed, and mass removal per million gallons extracted).

   e. Cost effectiveness data (e.g. cost per pound of contaminant removed).

   f. Summary of additional investigations (including results) and significant modifications to remediation systems.

   g. Additional remedial actions proposed to meet cleanup standards (if applicable), including time schedule.

4. Provision C.2.k (additional on-site remediation for saturated soils) shall be deleted.

5. Provision C.5 (monthly technical status letter reports) shall be deleted.

6. Provision C.6 (quarterly progress report) shall be revised to read:

   The dischargers shall submit quarterly progress reports one and a half months after the end of each calendar quarter (i.e. May 15, August 15, November 15, and February 15). For calendar quarters after December 31, 1996, the dischargers shall submit semi-annual progress reports (i.e. August 15 for the period January-June and February 15 for the period July-December). Progress reports may be combined with self-monitoring reports required by Provision C.1 and shall include: updated water table and piezometric surface maps for all affected water-bearing zones, and appropriately scaled maps showing the location of all monitoring and extraction wells and adjacent facilities. Cross-sections describing the site's hydrogeological setting shall be provided in the first progress report for each calendar year.

   The Executive Officer may modify the above schedule for submitting progress reports as well as the required contents of progress reports.

7. The Self-Monitoring Program (SMP) shall be revised to delete references to table 5 and modify tables 3 and 4 as shown in the attachment.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on April 19, 1995.

Steven R. Ritchie
Executive Officer

Attachments: SMP Tables 3 and 4

Table 3: Off-Site Monitoring Schedule

| Well Name | Frequency: 1995 | 1996+ | Well Name | Frequency: 1995 | 1996+ |
|---|---|---|---|---|---|
| 74B | SA | A | RW-12B | Q | SA |
| 75B | Q | SA | RW-13B | SA | A |
| 78B | SA | SA | RW-17B | SA | A |
| 83B | SA | A | RW-19B | Q | SA |
| 102C | SA | A | RW-22B | SA | A |
| 105B | A | 2A | RW-25B | Q | SA |
| 106B | SA | A | WCC-7B | SA | A |
| 108B | A | 2A | WCC-13B | Q | A |
| 120B * | A | 2A | WCC-18C | SA | A |
| 126B * | Q | SA | WCC-19B | SA | SA |
| 127B * | Q | SA | WCC-24B | Q | A |
| 128B * | Q | SA | WCC-25B | Q | A |
| 129B * | A | A | WCC-27B | SA | A |
| 135B | A | A | WCC-38B | A | 2A |
| 144B | SA | 2A | WCC-39B | SA | A |
| RW-2B | A | A | WCC-42B | A | 2A |
| RW-3C | SA | A | GO-4M | A | A |
| RW-5C | SA | A | | | |

Key: Q - Quarterly
SA - Semi-annually
A - Annually
2A - Every other year
* - Part of a well pair straddling the slurry wall

Notes:
1. Use EPA Method 8010/8015-SJ for wells 120B, 144B, WCC-42B, and GO-4M.
2. Use EPA Method 8010-SOS (modified) for all other wells.

Table 4: On-Site Monitoring Schedule

| Well Name | Frequency: 1995 | 1996+ | Well Name | Frequency: 1995 | 1996+ |
|---|---|---|---|---|---|
| 116B * | SA | A | RW-23A | A | A |
| 119B * | SA | A | WCC-1B * | SA | A |
| 122B * | SA | A | WCC-2B * | SA | A |
| 130B * | A | A | WCC-6C | A | A |
| 131B * | A | A | WCC-41A | A | A |
| AE-1B | A | A | New B | SA | A |
| AB-2B | A | A | | | |

Key: Q - Quarterly
SA - Semi-annually
A - Annually
2A - Every other year
* - Part of a well pair straddling the slurry wall

Notes:
1. Use EPA Method 8010/8015 (modified SJS) for all wells.